

SOME NEW OR LITTLE KNOWN MESOSTIGMATA (ACARINA) FROM AUSTRALIA, NEW ZEALAND AND MALAYA

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SUMMARY

Eight species of new, or rare and little known, Acarina (Mesostigmata) are described or recorded from specimens in the South Australian Museum.

In the family Paramegistidae three new species and a new genus are described. The genus *Micromegistus* Träg. is represented by a new species; the genus belongs to the family Paratenmuidae Willmann. The genus *Ptochacarus* Silv. with the bizarre species *P. daveyi* as type is more clearly diagnosed and transferred from the Antennophoridae to the Klinckowstroemiidae; two new species of the genus are described, and a key given.

A second specimen of *Allozercon fecundissimus* Vitz. is recorded and figured.

Family PARAMEGISTIDAE Trägårdh 1946

Trägårdh, I., 1946. Outlines of a new classification of the Mesostigmata (Acarina) based on comparative morphological data. Kungl. Fysiografiska Sällskapets Handl. N. F. 57 (4), pp. 1-37.

Camín, J. H., and Gorirossi, F. E., 1955. A Revision of the Suborder Mesostigmata (Acarina) based on new interpretations of comparative morphological data; Publ. No. 11, Chicago Acad. Sci.

Genus OPHIOMEGISTUS Banks, 1914

Banks, N., 1916. J. Ent. Zool. Claremont, Calif. 6, p. 58. (Type *Ophiomegistus luzonensis* Banks, 1914.)

The genus *Ophiomegistus* has generally been placed in the family Antennophoridae but Camín and Gorirossi in their paper suggest that it should be included in the Paramegistidae, with which I am in agreement.

Ophiomegistus clelandi sp. nov.

Text fig. 1, A-E

Type—A male from a snake at Hermannsburg, Central Australia, collected by Prof. J. B. Cleland some years ago (no date) in the collection of the South Australian Museum.

Description—*Male holotype*—Rather large, well chitinated, dorso-ventrally flattened and slightly wider than long; length of idiosoma 850 μ , width 928 μ .

Dorsum—Shield entire, covering the whole body except for a narrow band of cuticle marginally, and furnished only with minute setae. Lateral margins of the body with long, slender setae, especially posteriorly where approximately every third seta is to 174 μ long, the intermediate setae being about half of this length.

Venter—Tritosternum present with paired laciniae; jugular shields united in the median line forming a single shield about four times as wide as long and separated from the rest of the sternal shield by a fine suture, with one pair of short, stout, pointed setae and a pair of lyriiform pores; sternal, metasternal and ventri-anal shields coalesced to form a single shield which expands widely flask-like behind coxae IV, on this shield sternal setae II and III are close together in the antero-lateral corners, and the metasternal setae (sternal setae IV) are lateral in the angles of the shield between coxae II and III, from the angles of

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the shield between coxae III and IV and extending backwards to the middle of the expanded ventri-anal portion of the shield and around its margin to the anus are a number of small spine-like setae, on the disc of the posterior half of the expanded ventri-anal part are several transverse rows of blade-like setae; metapodal shields large, triangular without the spines in the antero-lateral

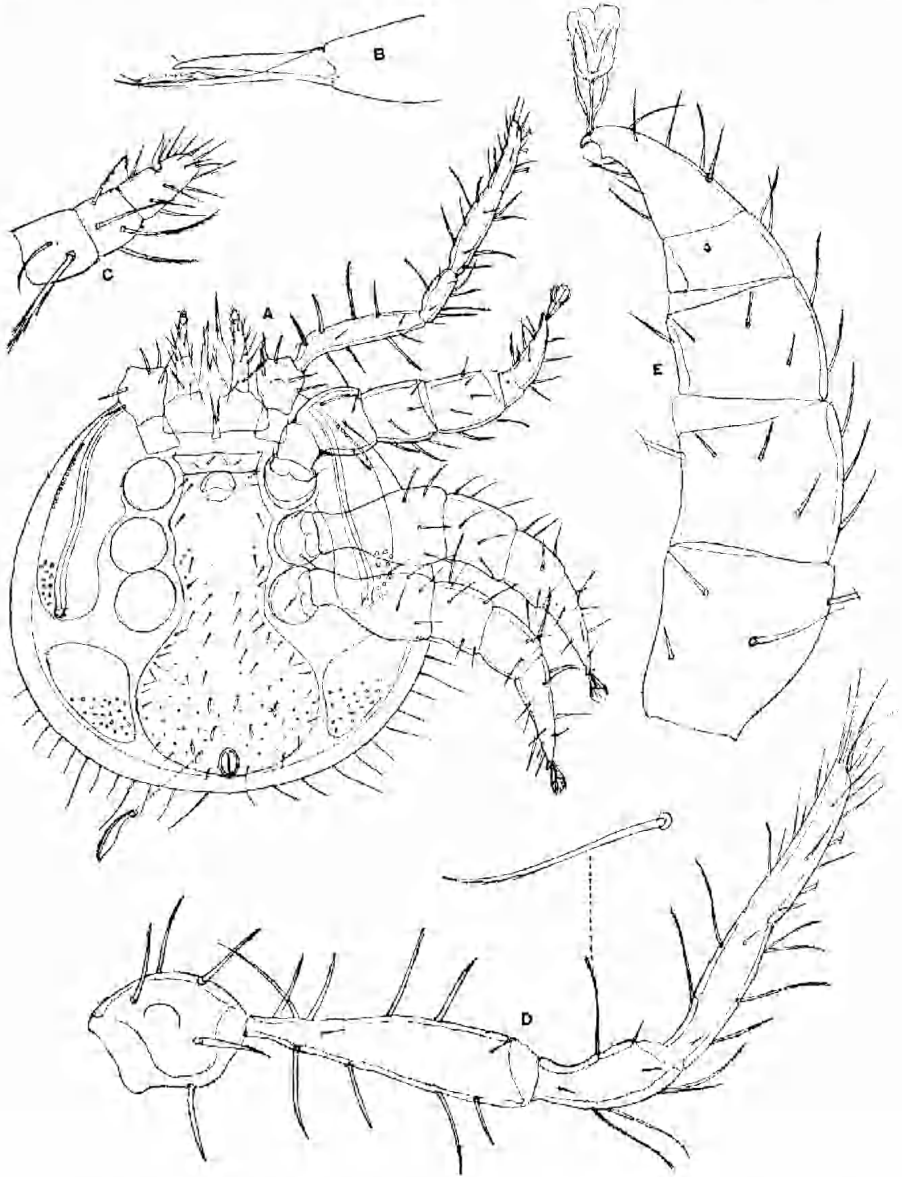


Fig. 1, A-E.—*Ophiomegistus clelandi* sp. nov. Male. A, venter; B, chelicerae; C, palp; D, leg. I; E, leg II.

corners as shown by Grant 1947 (Microentomology, 12 (1), fig. 9) for *O. luzonensis*, but with a number of tubercles posteriorly; the stigmata are situated in line with coxae IV with the peritreme running forward as far as coxae I, the peritremal shields are large, coalesced with the exopodal shields and rounded just behind the stigmata, with a variable number of tubercles in the neighbour-

hood of the stigmata and outside of the peritreme with another series of tubercles on the outer margin of the peritremal shields anteriorly.

Gnathosoma.—Palpi as figured, 5-segmented but the tibiae and tarsi are not clearly differentiated, specialised seta on tarsi 2-tined; chelicerae styliform with slender edentate digits adapted for piercing, fixed digit with fine hyaline serrate lamellae but without the basal seta shown by Grant for *O. luzonensis*.

Legs.—Six-segmented, I long, slender and antennaeform, tarsus without pretarsus caruncle or claws, to 928μ long; II-IV very stout, tarsi ending in a blunt, claw-like tip, with a pad-like ambulacrum and very slightly sclerotised indistinct paired claws, II 754μ long (excluding ambulacrum), III and IV 812μ ; setation of coxae and legs as figured, the longer setae on legs distally ciliated or fimbriated.

Remarks.—This species, the second of the genus to be described, differs from the genotype *O. luzonensis* Banks which is also a snake parasite, in the larger size of and lack of setae on the metapodal shields, in the sparser setation of the inter-coxal portion of the holovenral shield and in the form of the specialised setae on the posterior half of the ventri-anal portion of the holovenral shield. It is only known from the holotype male, the female being unknown.

It is named in honour of the collector, Prof. J. B. Cleland.

Genus *PROMEGISTUS* nov.

With the characters of the family Paramegistidae. In the female the jugular shield is coalesced with the sternal forming a transverse shield approximately as wide as long with three pairs of setae and two pairs of pores; metasternal shields produced inwardly between the sternal shield and the transverse, bar-shaped sternogynial shield, coalesced with endopodal shields of coxae III and IV, and furnished with one seta and pore; sternogynial shield a transverse bar deepest in the median line and tapering to the sides, without setae or pores; mesogynial shield reduced as figured; latigynial shields rather small with many setae and hinged to the ventri-anal shield; ventri-anal shield very large and expanded behind coxae IV to include most of the venter, with numerous simple pointed setae; peritremal, exopodal and metapodal shields coalesced and produced behind coxae IV in a triangle. Stigmata between coxae III and IV with peritremes extending to coxae I. Chelicerae with fixed digit serrate and movable digit with long hyaline filamentous appendages. Palpi 5-segmented, but the tibia and tarsus not clearly demarcated, seta on tarsus 2-tined. Legs 6-segmented, I only a little longer than II-IV, antennaeform, with caruncle or claws; II-IV stouter than I, tarsi with short pretarsus, caruncle and slightly sclerotised indistinct paired claws. Dorsal shield entire and under-lapping the venter narrowly posteriorly but more widely laterally with sparse minute setae; margin of body with numerous long, stout spines. In the male with the jugular shields united medially and separated from the rest of the sternal by a transverse suture, furnished with two pairs of setae (no pore can be seen); genital orifice slightly posterior of suture and between coxae II; otherwise the ventral shields are coalesced to form a holovenral shield.

Type *Promegistus armstrongi* sp. nov.

Promegistus armstrongi sp. nov.

Text fig. 2, A-F

Types.—Holotype female, allotype male, one paratype female, and two paratype males collected "on beetles, Acacia Plateau near Nyngan, New South Wales (J. W. T. Armstrong)" in the collection of the South Australian Museum.

Other specimens in the Museum collection are:

One male and two females on an old slide from *Mustochilus* sp. (Passalidae) collected by T. H. Johnston (no data) and identified by the late F. H. Taylor as *Echlnomegistus* sp.

One male from *Pamborus* sp. (Carabidae) from Mt. Glorious, Queensland, 20th May, 1951 (coll. K. Webber).

Five females and nine males from Cooroy, Blackall Ranges, Queensland,

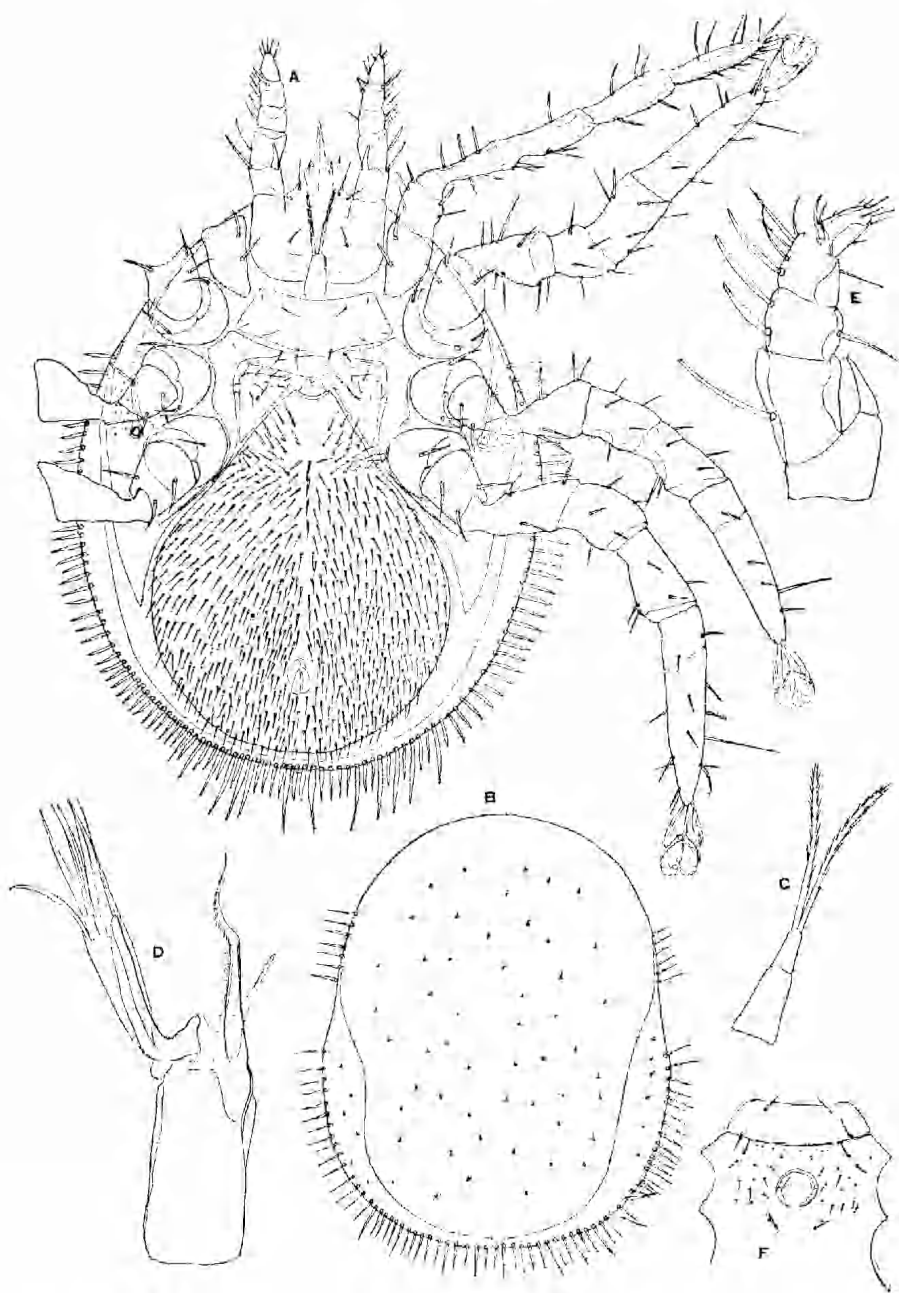


Fig. 2, A-F.—*Promegistus australicus* sp. nov. A-E female. A, venter; B, dorsum; C, tritosternum; D, chelicerae; E, palp; F, male, jugular and anterior of sternal shield.

1910, found mounted dry on cards, in the collection of insects bequeathed to the Museum by the late Capt. S. A. White; the labels bear no other data than the above and the collector's name, J. W. Mellor.

One female from Upper Williams River, N.S. Wales, Oct. 1926 (coll. A. M. Lea and E. Wilson).

Description—*Female holotype* (Fig. A-E)—A large, broadly oval, strongly chitinated and dorso-ventrally flattened species. Length of idiosoma 1450μ , greatest width in line of coxae IV 1160μ .

Dorsum—Shield entire, underlapping the venter narrowly posteriorly and more widely laterally, with sparse minute setae on the disc but marginally with many strong spines to 93μ long interspersed with longer ones to 162μ .

Venter—Tritosternum with paired ciliated laciniae; no pre-endopodal or separate jugular shields, the latter being coalesced with the sternal which is wider than long, 394μ by 139μ with concave anterior margin and convex posterior margin, with three pairs of setae and two pairs of lyriform pores; posterior of the sternal shield is a transverse bar-shaped sternogynial shield, 348μ wide, deepest to 81μ in the median line and tapering outwardly, without setae or pores; the metasternal shields are produced inwardly between the sternal and sternogynial shields and are coalesced with the endopodal shields of coxae III and IV, they carry a seta on the inside point and also a lyriform pore; the mesogynial shield is small and reduced, lying at the apex of the ventri-anal and between the latigynial shields in line with coxae III; the latigynial shields are only of moderate size, triangular, hinged to the ventri-anal shield and furnished with nine to twelve setae; the ventri-anal shield is very large, widely expanded behind coxae IV, 928μ long by 765μ wide, with rounded sides and covered with numerous pointed simple setae; the exopodal, peritremal and metapodal shields are coalesced into a broad shield which extends behind coxae IV to a triangular point; the stigmata lie between coxae III and IV with the peritremes running forward to coxae I, outside of the peritreme in the region of coxae III the shield carries a patch of tubercles.

Gnathosoma—With three pairs of hypostomal setae as figured; chelicerae as figured, the fixed digit with a hyaline finely toothed lamella, movable digit with a number of long, filamentous appendages; palpi as figured, 5-segmented, but the tibiae and tarsi indistinctly demarcated, basal segment with a strong inner tooth, specialised seta on tarsi I 2-tined.

Legs—I slender, antennaeform, without caruncle or claws, to 1390μ long; II-IV rather stouter and all tarsi with short pretarsus, caruncle and indistinct paired claws, II 1183μ (excluding pretarsus and ambulacrum), III 1218μ , IV 1415μ ; coxae and legs with normal setation, acetabula of coxae II and III anteriorly with a series of marginal, strong, minute denticles (not figured).

Male Allotype (Fig. 2 F)—Of the same general facies as the female except that the ventral shields are coalesced to form a holoverntal shield with only a suture line in front of the genital orifice. This suture line separates off the jugular portion which is shaped as in the female but carries sternal setae I and II only. The genital orifice is distinctly behind the suture and in line with coxae II. Length of idiosoma 1427μ , width 1123μ ; length of leg I 1322μ , II (excluding ambulacrum) 1195μ , III 1240μ , IV 1370μ .

Genus NEOMEGISTUS Trägårdh 1910

Trägårdh, I., 1910. Neue Acariden aus Natal und Zululand. Zool. Anz., 30, p. 872. (Type *Neomegistus julidicola* Träg. 1910.)

Trägårdh, I., 1946. Outlines of a new classification of the Mesostigmata (Acarina) based on comparative morphological data. Kungl. Fysiografiska Sällskapets Handl. N. F. 57 (4), p. 17.

Neomegistus australicus sp. nov.

Text fig. 3, A-F

Types—Holotype female and three paratype females in the South Australian Museum from "a lizard *Tiliqua* sp.", St. Francis Island, Nuyts Archipelago, S. Aust. 23/2/93 (coll. T. Cornock).

Description—*Female holotype*—Comparatively small, well chitinised, dorso-ventrally flattened, broadly oval but wider than long. Length of idiosoma 812 μ , width 893 μ .

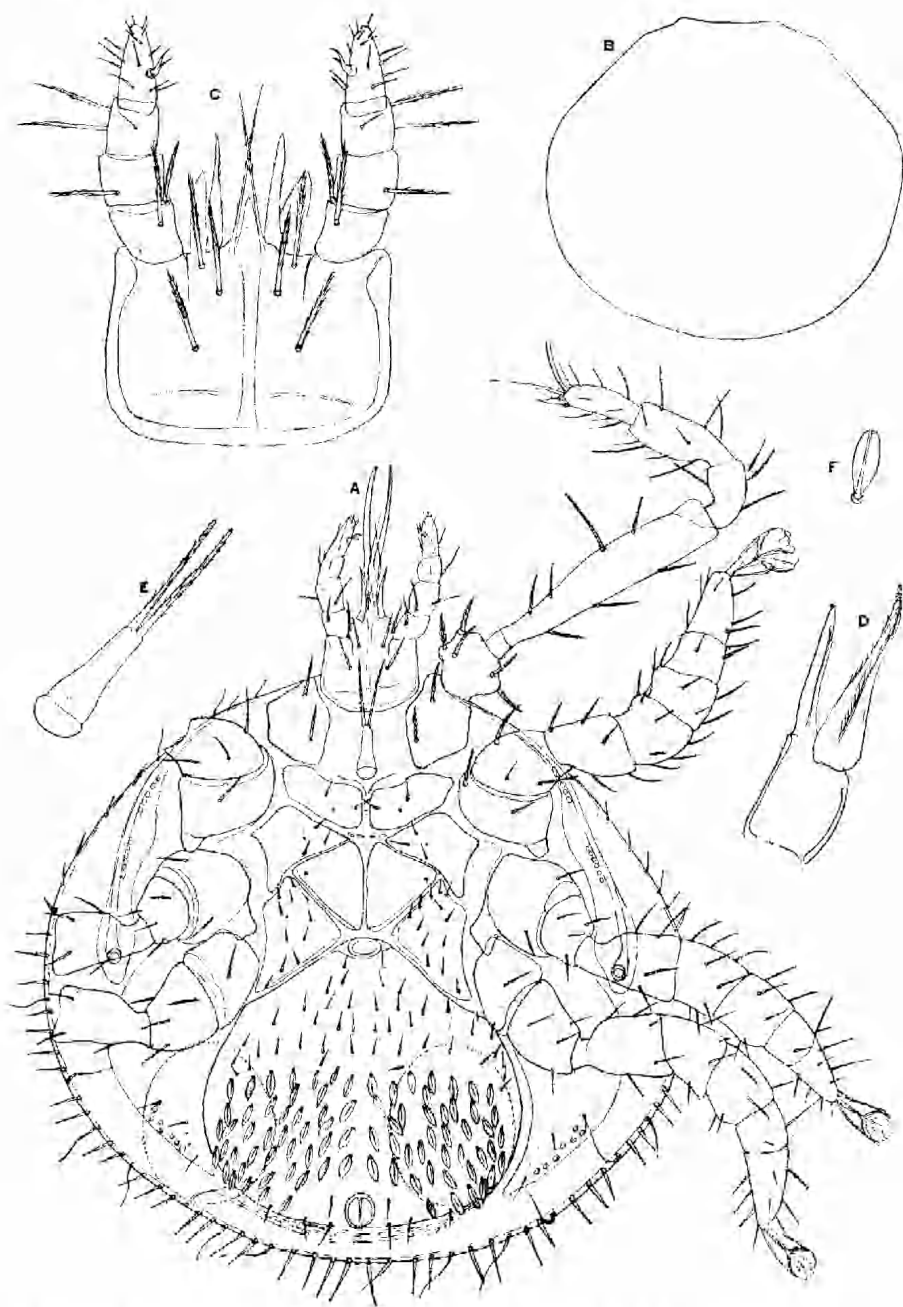


Fig. 3. A-F. *Neomegistus australicus* sp. nov. Female. A, venter; B, outline of dorsum; C, gnathosoma and palps; D, chelicerae; E, tritosternum; F, a posterior ventri-anal seta enlarged.

Dorsum—Shield entire covering the whole body, on the disc with sparse short setae, marginally with strong pointed setae from 28 μ long anteriorly to

56 μ long posteriorly and interspersed every few setae with more flexible setae to 70 μ long.

Venter—Tritosternum present with paired laciniae; no pre-endopodal shields; jugular shields large, not coalesced medially, each about twice as wide as long with slightly concave anterior margins and convex oblique posterior margins, each shield carries two setae (sternal setae I and II) and a small circular pore; the posterior portion of the sternal shield is apparently divided in the median line to form with the coalesced metasternal shields two somewhat rhomboid shields, each furnished with three setae and a small round pore (the setae probably represent sternal setae III and metasternal setae plus one accessory pair); the inner angles project inwards in a wide triangle between the jugular and sternogynial shields, and between the inside points is a transverse row of four fairly small shieldlets; the sternogynial shield is represented by two large triangular shields with the median edges adjacent, these shields are without setae but each has a small round pore in the lateral corner, which is probably the metasternal pore and suggests a partial fusion of the metasternal shields with the sternogynial; the mesogynial shield is much reduced and lies at the apex of the ventri-anal shield and between the inside angles of the latigynial shield; the latigynial shields are large, triangular, hinged postero-laterally to the ventri-anal shield and furnished with a variable number of setae; ventri-anal shield large, widely expanded behind coxae IV to 440 μ , and 429 μ long, in the anterior third this shield is furnished with about four transverse rows of strong pointed setae, posterior of these the setae are oval and lanceolate leaf-like as figured, there are about six transverse rows of these setae which are to 47 μ in length, on each side of the anus there is a longer simple seta and on the posterior margin three pairs of similar setae; the metapodal shields are coalesced with the exopodal shields of coxae IV into a broad shield which extends backwards of coxae IV to a point the inner margin of which follows the curve of the ventri-anal shield, the metapodal portion has three simple setae and a few tubercles as figured; the peritremal shield is fairly narrow being only slightly expanded lateral of coxae III and has two small series of tubercles on the inside edge of the peritreme, the stigmata lie between coxae III and IV and the peritremes run forward to coxae I.

Gnathosoma—With three pairs of strong, thick ciliated hypostomal setae; labial cornicles also minutely ciliated on margins; chelicerae as figured, digits edentate, movable with hyaline ciliated processes; palpi 5-segmented, tibia and tarsus imperceptibly separated, specialised seta on tarsi 2-tined, setae on basal segments strong and ciliated.

Legs—All legs shorter than body, I fairly slender, antennaeform without ambulacrum, to 729 μ long, II (excluding ambulacrum) 580 μ , III 545 μ , IV 635 μ ; tarsi II and IV with ambulacrum of short pretarsus caruncle and indistinctly sclerotised claws; coxae II and III with stout posterior rounded to squarish bosses as figured; setae on coxae and other leg-segments mostly strong and ciliated.

Male—Unknown.

Family PARANTENNULIDAE Willmann, 1940

Willmann, C., 1940. Neue Milben aus Höhlen der Balkanhalbinsel, gesammelt von Prof. Dr. K. Absolon. Zool. Anz., 130, pp. 209-218.

Willmann, C., 1941. Die Acari der Höhlen der Balkanhalbinsel. Studies aus der Gebiete der Allgemeinen Karstforschung der Wissenschaftlichen Höhlenkunde etc. Biol. Ser., 8, pp. 1-80.

Genus MICROMEGISTUS Trägårdh, 1948

Trägårdh, L., 1948. Description of *Micromegistus*, a new genus of the Paramegistidae with notes on *Neomegistus*, *Paramegistus* and *Echinomegistus* (Acarina). Entom. Tidsk., 69, pp. 127-131. (Type *Micromegistus bakert* Träg., 1948.)

This genus has recently been shown by Drs. J. H. Camin and F. E. Gorirossi (Publ. No. 11, Chicago Acad. Sci., 1955) to be more properly placed in the family Parantennulidae of Willmann rather than the Paramegistidae as was done by Trägårdh.

***Micromegistus gourlayi* sp. nov.**

Text fig. 4

Types—Holotype female, allotype male, one paratype male and two nymphal specimens from a carabid beetle *Mecodema* sp. from Nelson, New

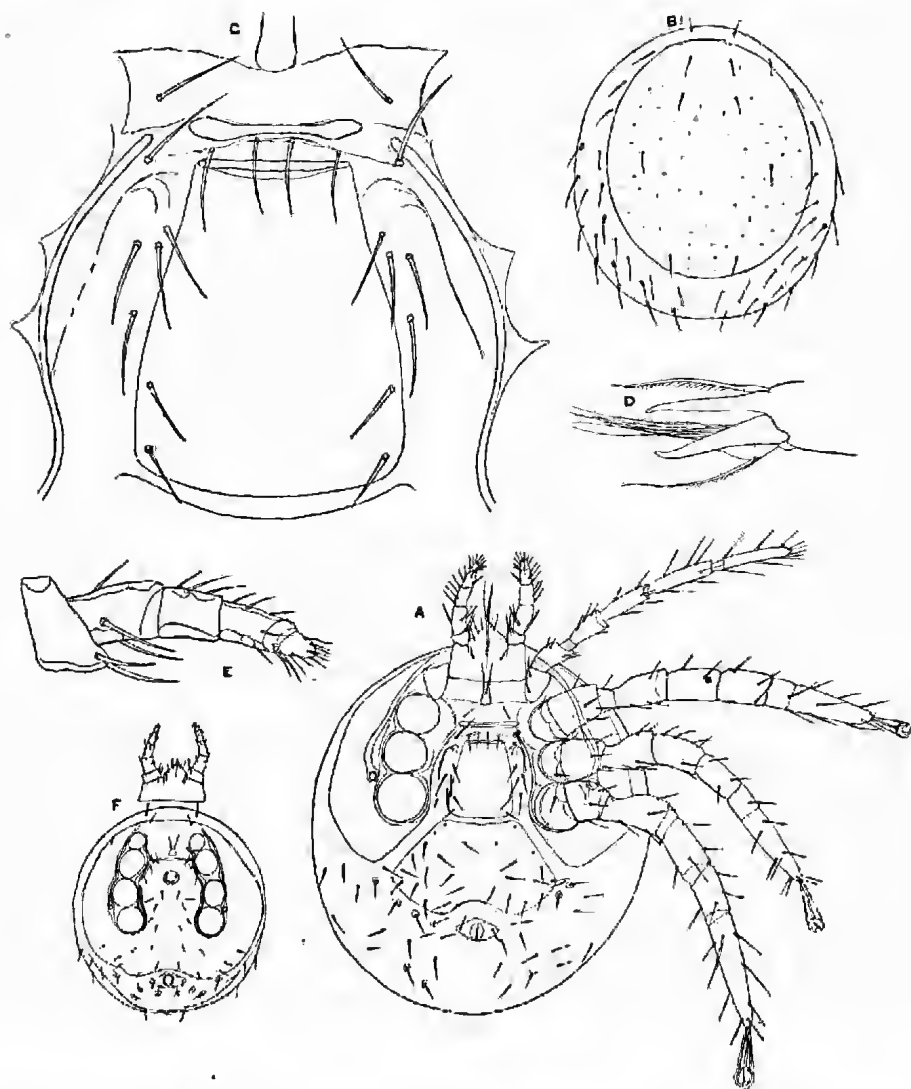


Fig. 4. A-F.—*Micromegistus gourlayi* sp. nov. A-E female, A, venter; B, dorsum; C, sternal shields enlarged; D, chelicerae; E, palp; F, male venter.

Zealand, Jan., 1952 (coll. H.W.). These specimens were collected by the author while on a trip with the New Zealand Entomologist, Mr. Gourlay, to whom the species is dedicated.

Description—*Female holotype*—A rather small not strongly chitinised, dorso-

ventrally flattened species of broadly rounded form. Length of idiosoma 986μ , width 928μ .

Dorsum—Shield entire 766μ long by 673μ wide, not entirely covering body being surrounded by a wide strip of soft cuticle as figured, furnished with at least four pairs of simple setae to ca. 60μ in length, on the cuticle lateral of the shield with more similar setae.

Venter—Tritosternum with a pair of ciliated laciniae; the sternal shields are all very ill-defined, there is anteriorly a wide jugular portion only demarcated clearly on the anterior margin and with a transverse more sclerotised band subposteriorly, the jugular part carries one pair of long setae but no pores can be seen, sternal setae II and III are in a transverse row just behind the sclerotised band, lateral of these are the longer sternal setae IV (metasternal); the sternogynial shield would appear to be a fairly well sclerotised transverse strip across the anterior margin of the large mesogynial shield; the mesogynial shield is roughly beaker-shaped with the anterior end straight and about two-thirds the length of the posterior margin so that the almost straight sides converge anteriorly; the jugular part is 188μ wide with the setae 164μ apart and 56μ long, the sclerotised band is 117μ wide and the sternal setae 47μ long, the more sclerotised sternogynial shield is 99μ wide, the metasternal setae are 70μ long; the mesogynial shield is 297μ long, 103μ wide anteriorly and 164μ wide posteriorly and is furnished with two pairs of setae 47μ long, one pair at the postero-lateral corners and a pair lateral and anterior of the latter; the latigynial shields are ill-defined but carry four setae on each side of the mesogynial shield; the ventral shield is separated from the mesogynial shield and from the anal shield, it is 188μ wide on the anterior concave margin on the line of the posterior edge of coxae IV, then has straight, strongly diverging sides to a width of 489μ , its maximum length is 254μ and median length 197μ , the posterior margin is medially strongly concave, it carries ca. 12 pairs of setae to 47μ long; the anal shield is small, transversely diamond-shaped 66μ long by 103μ ; with only a pair of paranal setae; it is fairly widely separated from the posterior concavity of the ventral shield; the peritremal, exopodal and metapodal shields are coalesced into a wide shield which extends well past coxae IV, the stigmata are between coxae III and IV and the peritremes run forward to coxae I; on the cuticle posterior of the ventral and anal shields are ca. 16 pairs of setae, many of which arise from small shieldlets.

Gnathosoma—With 4 pairs of hypostomal setae; chelicerae as figured, digits edentate, fixed digit with one hyaline ciliated lamella, movable digit with a number of hyaline ciliated processes; palpi as figured, 5-segmented, tibia and tarsus clearly demarcated, seta on tarsus 2-tined.

Legs—I 870μ long, slender antennaeform without ambulacrum or claws, II 870μ (excluding ambulacrum) with moderately long pretarsus, caruncle and indistinct claws; III 870μ long, IV 928μ long, all coxae and legs without specialised setae.

Male Allotype—General facies as in female. Size smaller; idiosoma 696μ long by 696μ wide.

Dorsum—As in female.

Venter—Jugular shield ill-defined, but apparently separated from rest of sternal and only represented by posterior margin and setae I which are widely separated; all other ventral shields except the anal coalesced into a holoventral shield whose posterior is concave to accommodate the small diamond-shaped anal shield.

Gnathosoma—As in female.

Legs—As in female, I 754μ long, II 696μ , III and IV 754μ long.

Remarks—The genus *Micromegistulus* was erected for a species *bakeri* found on *Scarites subterraneus*, Mississippi, U.S.A.

The diagnosis was given by Trägårdh as follows:—

"Jugular shields separate, fused to a single shield. Male genital aperture close to the anterior margin of the remaining sternal shield. Sternal and ventral shield fused, anal shield distinct.

"Female with short sterniti-metasternal shield. No median shield visible. General aperture a large transverse slit, the posterior margin of which is thickened to a ridge in the middle. Lateral shields present. Epigynial shield separated from the ventral shield, anal shield free, triangular, mandibles edentate."

Camín and Gorirossi in their valuable paper of 1955 have shown that *Micro-megistus* should be placed in the Parantennulidae and they considered that the type species needed re-study.

In the present material, the ventral shields, particularly the anterior sternal are even less defined than in *bakeri*. In the male of his species Trägårdh shows a well-defined jugular shield, but in *gourlayi* this is only evident by its posterior margin and the sternal setae I which are wide apart and near the anterior corners of the rest of the sternal shield. In the female of *gourlayi* the jugular shield is somewhat better defined and has a more strongly sclerotised transverse bar in front of the posterior sternal setae II and III. This strongly chitinated bar which Trägårdh suggests for *bakeri* is the anterior lip of the genital orifice, is interpreted here as the sternogynial shield, the genital opening being posterior thereto.

Specifically *gourlayi* differs from *bakeri* in the longer mesogynial shield and in size.

Family KLINCKOWSTROEMIIDAE Trägårdh, 1946

Trägårdh, L., 1946. Outlines of a new classification of the Mesostigmata (Acarina) based on comparative morphological data. Kungl. Fysiografiska Sällskapets Handl. N. F. 57 (4), p. 29.

Camín, F. H., and Gorirossi, F. E., 1955. A Revision of the Suborder Mesostigmata (Acarina) based on new interpretations of comparative morphological data. Publ. No. 11, Chicago Acad. Sci.

Genus PTOCHACARUS Silvestri 1910

Silvestri, F., 1910. Boll. Lab. Zool., Portici 5, p. 58. (Type *Ptochacarus daveyi* Silv., 1910.)
Banks, N., 1916. Trans. Roy. Soc. S. Aust., 40, p. 230.

This genus was erected by Silvestri for a very bizarre species of mite, *Ptochacarus daveyi* sp. nov., of which he had only two males collected from the nests of ants at Geelong, Victoria, by H. W. Davey.

In 1916, N. Banks referred specimens, sent to him by A. M. Lea, to Silvestri's species and for the first time gave a description of the female sex. These specimens were recorded as having been found with the ants *Camponotus aeneopilosus* and *Iridomyrmex nitidus* from Liverpool, New South Wales. In Banks' paper, however, the generic name is erroneously spelt *Ptocharus* as error which unfortunately was repeated in Baker and Wharton's "An Introduction to Acarology".

It is uncertain from Banks' paper exactly how many specimens he had before him, but he only refers to the female sex. In the South Australian Museum collection there are two slides each with one female specimen and both slides labelled in Banks' writing as "*Ptochurus daveyi* Silv."; one is from *Camponotus aeneopilosus*, Geelong, Victoria, and the other from *Iridomyrmex nitidus* from the same locality. It would seem probable therefore that these were the only two specimens seen by Banks.

An examination of these two specimens now shows that they are not conspecific, and that the one from *Iridomyrmex* is that from which Banks made his description and figure, and that this one only on specific characters can be compared to the male of *P. daveyi* Silv.

The second specimen differs specifically and is described in the present paper as a new species, while from other material a third species is described.

Apart from the two above records the genus *Ptochacarus* has been unknown. It was referred originally by Silvestri to the Antennophoridae and has up to the present been so placed by various authors.

From a study of Banks' female as well as females of the other two new species, it is now shown that the genus belongs to the family Klinckowstroemiidae Träg., 1946, as understood by Camin and Gorirossi, 1955.

A revised generic diagnosis is as follows:

Generic Diagnosis—Of strongly elevated form with the dorsal shield entire and occupying only the anterior portion of the dorsum; ventrally flattened and the lateral portions more sclerotised forming a cavity containing the ventral shields and coxae. Tritosternum with paired laciniae. Legs I antenniform without claws and caruncle; other legs short, rather stout, furnished with short caruncle on tarsi but without claw.

Female—Jugular shields separated from rest of sternum, united medially with one pair of setae and a pair of lyriiform pores; sternum wider than long with the posterior margin greater than anterior; with three pairs of setae and one pair of pores, thus indicating fusion with the metasternal shields; the sternogynial shield is represented by a pair of transverse shields without setae or pores; the mesogynial shield is large with a wider triangular base between coxae and extending forward in a pointed mucro to between the inner anterior angles of the latigynial shields, without setae or pores; the latigynial shields are large, flanking the mesogynial shield for its whole length, with an anterior more sclerotised triangular area; the ventri-anal shield is large and expands widely behind coxae IV to occupy the whole of that part of the venter, with numerous setae; exopodal, peritremal and metapodal shields coalesced, expanding laterally behind coxae IV and extending posteriorly to about the middle of the antero-lateral margins of the ventri-anal shield, the stigmata are between coxae III and IV with the peritreme extending to coxae I; the chelicerae are edentate, the movable digit with ciliated processes and apically with a demarcated claw-like part. Palpi 5-segmented, seta on tarsus 2-tined.

Male—Jugular shields as in female; sternal, endopodal and jugular shields coalesced to form a single shield separated from the ventri-anal shield by a transverse suture in line with the posterior edge of coxae IV; genital orifice large, lying between coxae II or II and III.

Types *Ptochacarus daveyi* Silv. 1910 ♂, Banks 1916 ♀.

***Ptochacarus daveyi* Silvestri 1910**

Text fig. 5, A-E

Silvestri, F., 1910. Boll. Lab. Zool. Portici, 5, pp. 56-58, figs. I and II (holotype male and one paratype male).

Banks, N., 1916. Trans. Roy. Soc. S. Aust., 40, p. 230, pl. 26, fig. 22 (allotype female).

The male of this species was very well described and figured by Silvestri, 1910, but Banks' figure of the female is somewhat inadequate. From a study of the single female described and figured by Banks, 1916, and of females of the following two new species the foregoing generic diagnosis has been completed and fresh drawings particularly of the ventral shields are given.

All three species agree essentially in the generic characters given and only differ in certain specific features. Detailed descriptions of the species therefore are not given but specific differences are used in the following key.

Ptochacarus daveyi is a small species being approximately 1 mm. in length, whereas the next species *P. banksi* sp. nov. is much larger measuring approxi-

mately 2 mm. in length. *Daveyi* differs from both of the following species in that all the setae on the dorsal shield, on the cuticle posterior of the dorsal shield and on the ventri-anal shield are of uniform length to 47μ , straight and ciliated. In

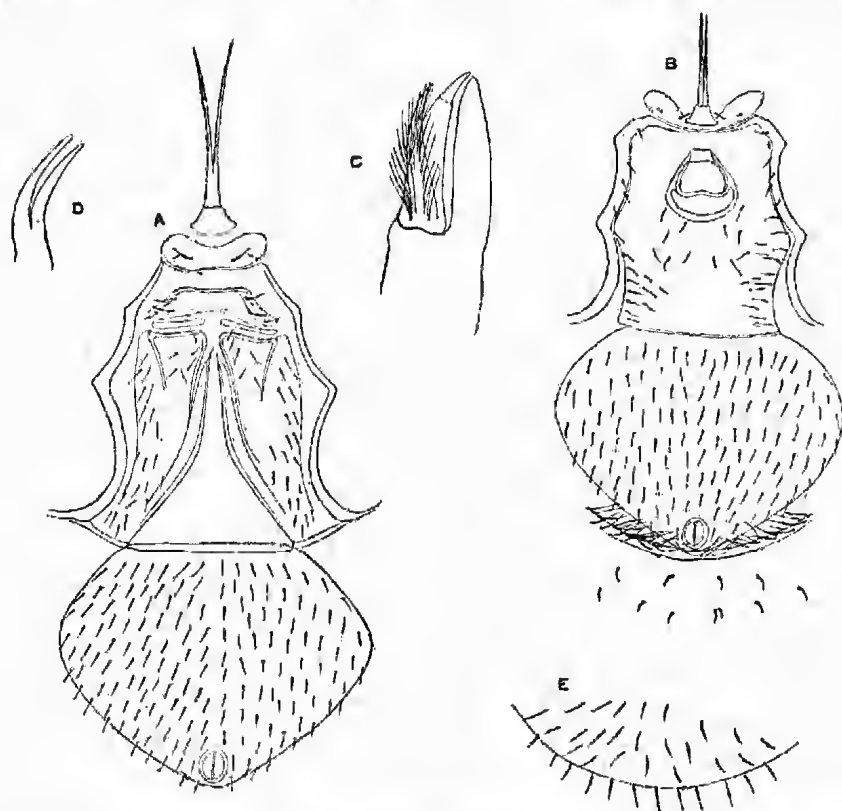


Fig. 5, A-E.—*Ptochacarus daveyi* Silv. A, female venter; B, male venter; C, female chelicerae; D, seta on palpal tarsus; E, setae on postero-dorsal cuticle.

the female the mesogynial shield is 235μ long and 211μ wide at the base. Owing to the poor state of the preparation of Banks' female, however, further detailed measurements cannot be given.

The female from nest of *Iridomyrmex nitidus* is the only specimen of this sex so far known. There are, however, two males in the Museum collection from ants at Swan River, Western Australia, collected by J. S. Clark (no date).

***Ptochacarus banksi* sp. nov.**

Text fig. 6, A-B

Type—The holotype female of this species is the second of Banks' specimens collected from a nest of the ant *Camponotus ueneopilosus* at Liverpool, New South Wales (coll. A. M. Lea) and erroneously identified as "*Ptochacarus daveyi* Silv."

Description—With the generic characters. Larger than *P. daveyi* Silv., approximately 2 mm. in length. Differs from *daveyi* in that the dorsal cuticle posteriorly carries long slender setae to 108μ in length, these setae having a few minute barbs. The setae on the ventri-anal shield are similar, recurved, to 95μ long and quite nude. The mesogynial shield is 258μ long and 235μ wide at base.

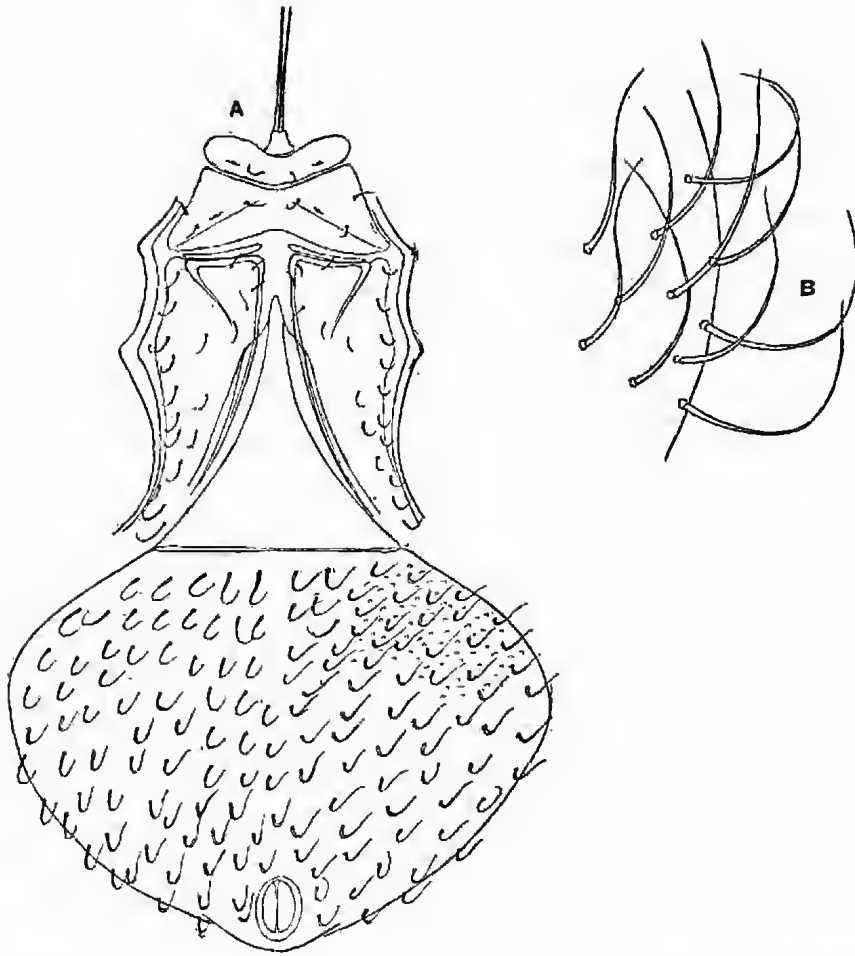


Fig. 6, A-B.—*Ptochacarus banksi* sp. nov. Female. A, venter; B, postero-dorsal setae.

Remarks—The unique specimen in the Museum collection is in rather poor condition. No other specimens are known. The species is named after the veteran American acarologist, Mr. Nathan Banks.

***Ptochacarus silvestrii* sp. nov.**

Text fig. 7, A-D

Types—Holotype female and one paratype female from Cairns District, Queensland (coll. F. P. Dodd, no date); allotype male from Mt. Tambourine, Queensland, with ants (coll. A. M. Lea, no date).

Description—With the generic characters. A small species of approximately 1 mm. in length in both sexes. Differs from the preceding two species in that while the setae on the posterior dorsal cuticle are mainly short, 47μ and ciliated, marginally they are exceedingly long, nude and slender, to 330μ ; on the ventri-anal shield the setae are 32μ long. The mesogynial shield is 258μ long, and 190μ wide at base.

Remarks—In addition to the types there are in the South Australian Museum collection the following specimens: 1 female and 2 males labelled "with ants,

Swan River, W.A., J. S. Clark" without date; 1 female, "with ants Port Lincoln, S. Aust., A. M. Lea" no date; 1 male "with ants, Sydney, N.S.W., M. W. Cox" no date.

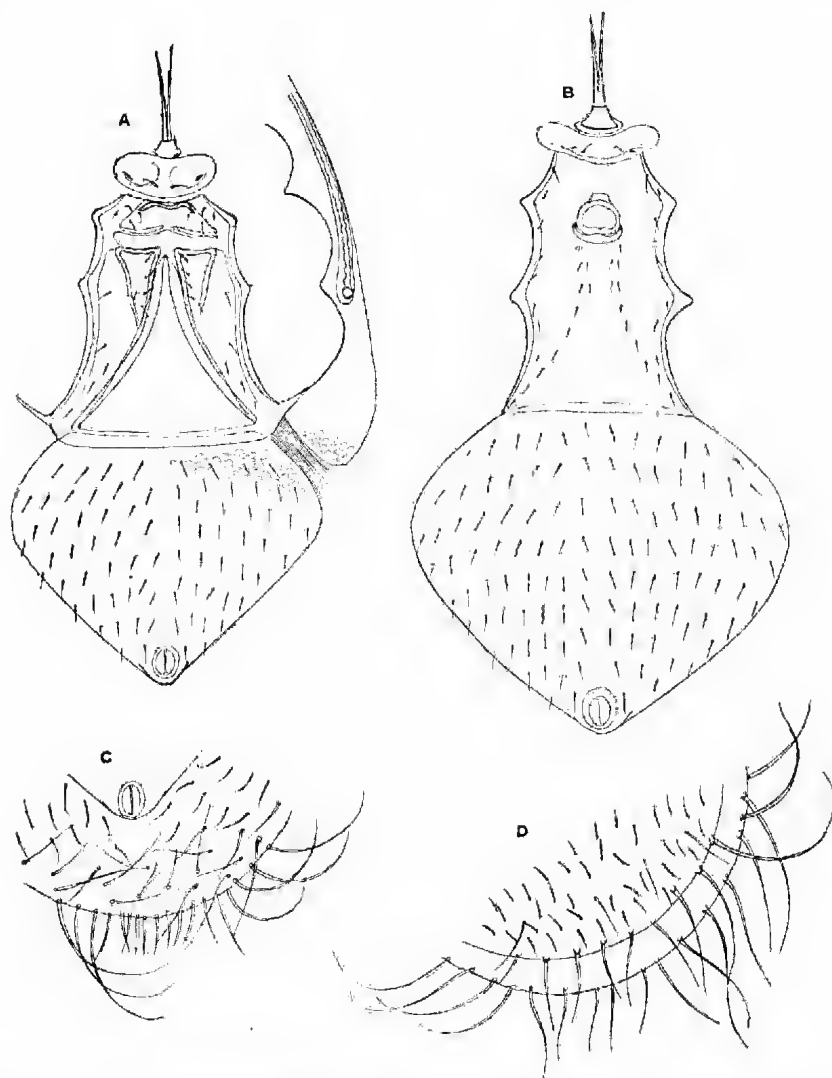


Fig. 7. A-D.—*Ptochacarus silvestrii* sp. nov. A, female venter; B, male venter; C, postero-ventral setae; D, postero-dorsal setae.

All the above specimens including the types were mounted dry on cards by A. M. Lea and have been remounted for microscopic study.

This species is dedicated to the late Prof. F. Silvestri, who erected the genus.

Key to the Species of *Ptochacarus*

- 1 Large species of approximately 2 mm. in length. Setae on ventrianal shield are simple, recurved and free, to 94μ long; on posterior dorsal cuticle long to 108μ with a few minute barbs.

P. banksi sp. nov.

- Smaller species of approximately 1 mm. in length

2

2. Posterior dorsal cuticle, and ventri-anal shield with only uniformly short, distinctly ciliated setae to 47μ .

P. daveyi Silv.

Posterior dorsal cuticle on surface with setae of 47μ in length, marginally with very long, 330μ , slender, curved, nude setae.

P. silvestrii sp. nov.

Family HETEROZERCONIDAE Berlese 1892

Berlese, A., 1892. Acari Myriapoda et Scorpiones hucusque in Italia reperta, 14, p. 97.

Genus ALLOZERCON Vitzthum 1926

Vitzthum, Graf, H., 1926. Malayische Acari-Trecubia, 8, p. 104. (Type *Allozercon fecundissimus* Vitz., 1926.)

Allozercon fecundissimus Vitzthum 1926

This species is so far only known from a single female described by Vitzthum and found by Dr. Dammerman at Buitenzorg in Oct., 1921.

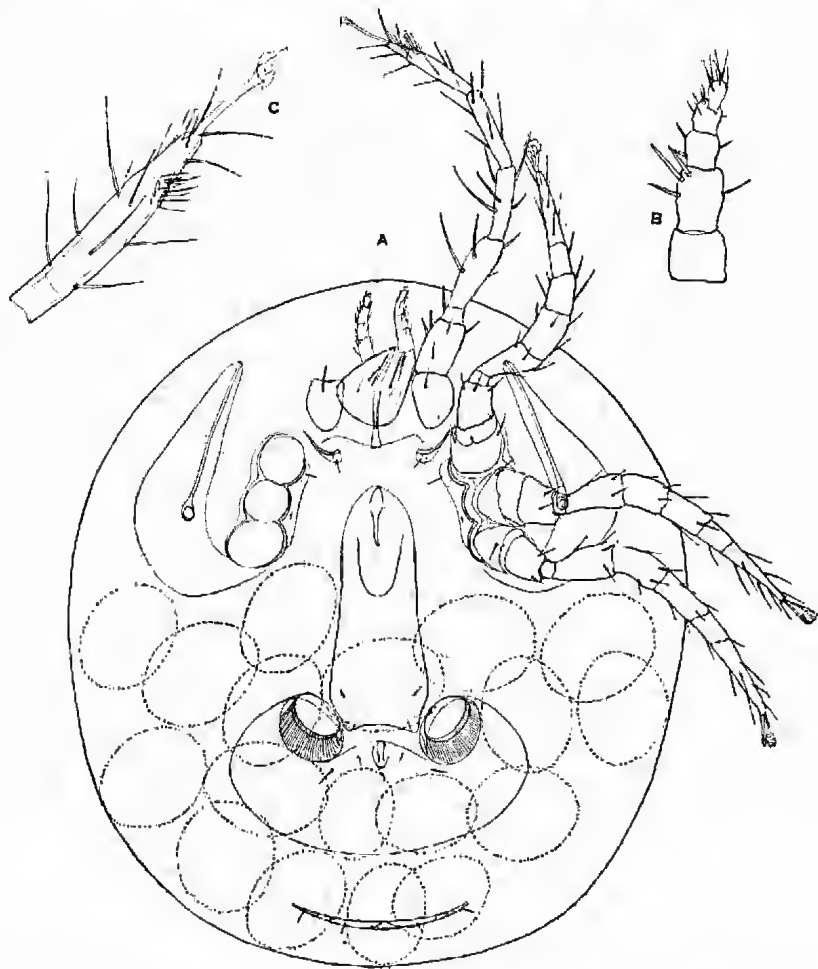


Fig. 8, A-C.—*Allozercon fecundissimus* Vitz. Female. A, venter; B, palp; C, tarsus I.

Amongst a lot of small arthropods gummed on cards by the late A. M. Lea in the South Australian Museum I have found another female specimen which undoubtedly belongs to Vitzthum's species.

Having to be soaked off the cards for mounting for microscopical examination the specimen is not in the best of condition. However, the following figures have been drawn from it and will serve to identify it with *fecundissimus*. The specimen was collected by "A. M. Lea and wife" at The Gap (Fraser's Hill), Malaya, in 1924-25.